

AMENDMENTS TO THE CLAIMS

1-21. (Cancelled)

22. (Withdrawn) A cosmetic or topical pharmaceutical composition comprising at least one oligonucleotide containing between 7 and 25 nucleotides, capable of specifically hybridising with genes or gene products coding for protein kinase C beta-1 (PKC beta-1).

23. (Withdrawn) A cosmetic or topical pharmaceutical composition according to claim 22, comprising at least one oligonucleotide capable of specifically hybridising with any 5' to 3' regions, coding or not coding for genes coding for PKC beta-1.

24. (Withdrawn) A cosmetic or topical pharmaceutical composition according to claim 22, comprising at least one oligonucleotide whose sequence is one of the sequences SEQ ID NO. 1 to SEQ ID NO. 5 having the following significance:

SEQ ID NO. 1: ACA CCC CAG GCT CAA CGA TG

SEQ ID NO. 2: TGG AGT TTG CAT TCA CCT AC

SEQ ID NO. 3: AAA GGC CTC TAA GAC AAG CT

SEQ ID NO. 4: GCC AGC ATC TGC ACC GTG AA

SEQ ID NO. 5: CCG AAG CTT ACT CAC AAT TT

25. (Withdrawn) A cosmetic or topical pharmaceutical composition according to claim 24, comprising at least one oligonucleotide whose sequence is either SEQ ID NO. 1 or SEQ ID NO. 4.

26. (Withdrawn) A cosmetic or topical pharmaceutical composition according to claim 24, comprising at least one oligonucleotide whose sequence is SEQ ID NO. 1.

27. (Withdrawn) A cosmetic or topical pharmaceutical composition according to claim 22 comprising at least one oligonucleotide comprising one or more chemical modifications to its sugar moieties, its nucleobase moieties or its internucleotide skeleton, the aforesaid

modifications conferring improved physicochemical characteristics to said oligonucleotide.

28. (Withdrawn) A cosmetic or topical pharmaceutical composition according to claim 27, comprising at least one oligonucleotide of which the sugar moiety comprises a 2'-O-fluoro or 2'-O-alkyl substituent, preferentially a 2'-O-ethoxymethyl or 2'-O-methyl substituent.

29. (Withdrawn) A cosmetic or topical pharmaceutical composition according to claim 27 comprising at least one oligonucleotide of which some of the phosphodiester groups of its internucleotide skeleton are replaced by phosphorothioate groups.

30. (Withdrawn) A cosmetic or topical pharmaceutical composition according to claim 27 comprising at least one oligonucleotide of which some of the phosphodiester groups of its internucleotide skeleton are replaced by methylphosphonate groups.

31. (Withdrawn) A cosmetic or topical pharmaceutical composition according to claim 27 comprising at least one oligonucleotide of which all of the phosphodiester groups are replaced by phosphorothioate groups.

32. (Withdrawn) A cosmetic or topical pharmaceutical composition according to claim 27 comprising at least one oligonucleotide of which all of the phosphodiester groups are replaced by methylphosphonate groups.

33. (Withdrawn) A cosmetic or topical pharmaceutical composition according to claim 27 comprising at least one oligonucleotide of which all of the phosphodiester groups are replaced in whole or in part by phosphorothioate groups and/or by methylphosphonate groups.

34. (Withdrawn) A cosmetic or topical pharmaceutical composition according to claim 22 comprising at least one oligonucleotide to which is grafted a linear nucleic acid or peptide vector, or a circular plasmid vector.

35. (Withdrawn) A cosmetic or topical pharmaceutical composition according to claim 22 containing one or more active agents chosen from among an antisense oligonucleotide directed against tyrosinase gene expression products; an antisense oligonucleotide directed against tyrosinase-related-protein 1 (TRP-1) gene expression products; ellagic acid and its derivatives; resorcinol and its derivatives; vitamin C and its derivatives; pantothenate sulfonate and its derivatives; molecules interfering directly or indirectly with alpha-melanocyte stimulating hormone (a-MSH) or its receptor or with adrenocorticotrophic hormone (ACTH); polyols such as glycerin, glycol or propylene glycol; vitamins; keratolytic and/or desquamating agents such as salicylic acid and its derivatives; alpha-hydroxyacids such as lactic acid or malic acid, alone or grafted; ascorbic acid and its derivatives; retinoids and carotenoids in liposomic preparation or not, such as retinaldehyde; retinol and its derivatives such as palmitate, propionate or acetate, beta-carotene; antiglycation agents and/or antioxidants alone or in association such as tocopherol and its derivatives, thiotaurine, hypotaurine, aminoguanidine, thiamine pyrophosphate, pyridoxamine, lysine, histidine, arginine, phenylalanine, pyridoxine, adenosine triphosphate; anti-inflammatory agents such as stearyl glycyrrhetinate; soothing agents and mixtures thereof; and chemical or physical sun blocks such as the octyl methoxycinnamate, butyl-methoxydibenzoyl-methane, titanium oxide and zinc oxide.

36. (Withdrawn) A cosmetic or topical pharmaceutical composition according to claim 22 wherein the oligonucleotide(s) according to the invention represent 0.00001% to 10% of the total weight of the composition.

37. (Withdrawn) A cosmetic composition according to claim 22 presented in the form of an emulsion containing an oil, an emulsifying agent chosen from among fatty acid and polyethylene glycol esters such as PEG-20 stearate, and fatty acid and glycerin esters such as glycerin stearate, and an co-emulsifying agent.

38. (Currently Amended) A method for depigmenting or bleaching human skin, body hair and/or hair of the head comprising the ~~topie~~topical application of a cosmetic composition comprising at least one oligonucleotide containing between 7 and 25 nucleotides, capable of

specifically hybridising with genes or gene products coding for protein kinase C beta-1 (PKC beta-1).

39. (Withdrawn) A topical pharmaceutical composition according to claim 22 intended for the treatment or the prevention of regional hyper-pigmentation by melanocyte hyperactivity such as idiopathic melasma, local hyper-pigmentation by benign melanocyte hyperactivity and proliferation such as pigmentary age spots (actinic lentigo), accidental hyper-pigmentation such as photosensitization or post-lesion healing, and for the treatment of certain leucodermias such as vitiligo.

40. (Withdrawn) A cosmetic or topical pharmaceutical composition according to claim 22 comprising at least one oligonucleotide containing 20 nucleotides.

41. (Withdrawn) A cosmetic composition according to claim 36 wherein the oligonucleotide(s) according to the invention represent 0.0003% to 3% of the total weight of the composition.

42. (Previously Presented) The method according to claim 38, wherein said composition comprises at least one oligonucleotide capable of specifically hybridising with any 5' to 3' regions, coding or not coding for genes coding for PKC beta-1.

43. (Previously Presented) The method according to claim 38, wherein said composition comprises at least one oligonucleotide whose sequence is one of the sequences SEQ ID NO. 1 to SEQ ID NO. 5 having the following significance:

SEQ ID NO. 1: ACA CCC CAG GCT CAA CGA TG

SEQ ID NO. 2: TGG AGT TTG CAT TCA CCT AC

SEQ ID NO. 3: AAA GGC CTC TAA GAC AAG CT

SEQ ID NO. 4: GCC AGC ATC TGC ACC GTG AA

SEQ ID NO. 5: CCG AAG CTT ACT CAC AAT TT

44. (Previously Presented) The method according to claim 38, wherein said composition comprises at least one oligonucleotide whose sequence is either SEQ ID NO. 1 or SEQ ID NO. 4.
45. (Previously Presented) The method according to claim 38, wherein said composition comprises at least one oligonucleotide whose sequence is SEQ ID NO. 1.
46. (Previously Presented) The method according to claim 38, wherein said composition comprises at least one oligonucleotide comprising one or more chemical modifications to its sugar moieties, its nucleobase moieties or its internucleotide skeleton, the aforesaid modifications conferring improved physicochemical characteristics to said oligonucleotide.
47. (Previously Presented) The method according to claim 38, wherein said composition comprises at least one oligonucleotide of which the sugar moiety comprises a 2'-O-fluoro or 2'-O-alkyl substituent, preferentially a 2'-O-ethoxymethyl or 2'-O-methyl substituent.
48. (Previously Presented) The method according to claim 38, wherein said composition comprises at least one oligonucleotide of which some of the phosphodiester groups of its internucleotide skeleton are replaced by phosphorothioate groups.
49. (Previously Presented) The method according to claim 38, wherein said composition comprises at least one oligonucleotide of which some of the phosphodiester groups of its internucleotide skeleton are replaced by methylphosphonate groups.
50. (Previously Presented) The method according to claim 38, wherein said composition comprises at least one oligonucleotide of which all of the phosphodiester groups are replaced by phosphorothioate groups.
51. (Previously Presented) The method according to claim 38, wherein said composition comprises at least one oligonucleotide of which all of the phosphodiester groups are replaced by methylphosphonate groups.

52. (Previously Presented) The method according to claim 38, wherein said composition comprises at least one oligonucleotide of which all of the phosphodiester groups are replaced in whole or in part by phosphorothioate groups and/or by methylphosphonate groups.

53. (Previously Presented) The method according to claim 38, wherein said composition comprises at least one oligonucleotide to which is grafted a linear nucleic acid or peptide vector, or a circular plasmid vector.

54. (Previously Presented) The method according to claim 38, wherein said composition comprises one or more active agents chosen from among an antisense oligonucleotide directed against tyrosinase gene expression products; an antisense oligonucleotide directed against tyrosinase-related-protein 1 (TRP-1) gene expression products; ellagic acid and its derivatives; resorcinol and its derivatives; vitamin C and its derivatives; pantothenate sulfonate and its derivatives; molecules interfering directly or indirectly with alpha-melanocyte stimulating hormone (α -MSH) or its receptor or with adrenocorticotrophic hormone (ACTH); polyols such as glycerin, glycol or propylene glycol; vitamins; keratolytic and/or desquamating agents such as salicylic acid and its derivatives; alpha-hydroxyacids such as lactic acid or malic acid, alone or grafted; ascorbic acid and its derivatives; retinoids and carotenoids in liposomic preparation or not, such as retinaldehyde; retinol and its derivatives such as palmitate, propionate or acetate, beta-carotene; antiglycation agents and/or antioxidants alone or in association such as tocopherol and its derivatives, thiotaurine, hypotaurine, aminoguanidine, thiamine pyrophosphate, pyridoxamine, lysine, histidine, arginine, phenylalanine, pyridoxine, adenosine triphosphate; anti-inflammatory agents such as stearyl glycyrrhetinate; soothing agents and mixtures thereof; and chemical or physical sun blocks such as the octyl methoxycinnamate, butyl-methoxydibenzoyl-methane, titanium oxide and zinc oxide.

55. (Previously Presented) The method according to claim 38, wherein the oligonucleotide(s) according to the invention represent 0.00001% to 10% of the total weight of the composition.

56. (Previously Presented) The method according to claim 38, wherein said composition is presented in the form of an emulsion containing an oil, an emulsifying agent chosen from among fatty acid and polyethylene glycol esters such as PEG-20 stearate, and fatty acid and glycerin esters such as glycerin stearate, and an co-emulsifying agent.

57. (Currently Amended) A method for the treatment ~~or the prevention~~ of regional hyper-pigmentation by melanocyte hyperactivity such as idiopathic melasma, local hyper-pigmentation by benign melanocyte hyperactivity and proliferation such as pigmentary age spots (actinic lentigo), accidental hyper-pigmentation such as photosensitization or post-lesion healing, and for the treatment of certain leucodermias such as vitiligo, comprising the topical application of a topical pharmaceutical composition comprising at least one oligonucleotide containing between 7 and 25 nucleotides, capable of specifically hybridising with genes or gene products coding for protein kinase C beta-1 (PKC beta-1).

58. (New) The method according to claim 38, wherein said oligonucleotide is capable of specifically hybridizing with human PKC beta-1 mRNA defined by Genbank accession number X06318.

59. (New) The method according to claim 57, wherein said oligonucleotide is capable of specifically hybridizing with human PKC beta-1 mRNA defined by Genbank accession number X06318.